Issue 1
6.12.79

DESIGNS DEPARTMENT HANDBOOK

No. 3.226(79)

AM5/29 Fader Drive Amplifier

C O N T E N T S

D R A W I N G S

Circuit	D 46228 A1
Parts List	D 46229 A4

Issue 1
6.12.79

DESIGNS DEPARTMENT HANDBOOK

No. 3.226(79)

AM5/29 Fader Drive Amplifier

1. INTRODUCTION

The AM5/29 is an unsupported 3U BMM card which carries twelve identical non-inverting unbalanced buffer amplifiers each with a pre-set gain of +6 dB. Each of these twelve are directly coupled at the input and a.c. coupled at the output to enable them to drive the faders of a PA6/87 Mono Microphone module forming part of the EP10/18 Continuity Suite.

The card also carries a thirteenth amplifier, a.c. coupled at both input and output to provide the 'ECHO SEND' facility of the module.

2. PERFORMANCE

Amplifiers 1-12 (fader drivers) are identical.

Input impedance	20 kΩ d.c. coupled
Input level	-18 dB volume
Output impedance	47 Ω
Output level	-12 dB volume
Maximum output	+17 dB

Amplifier 13 (Echo Send)

Input impedance	75 Ω a.c. coupled
Input level	-18 dB volume
Output impedance	47 Ω
Output level	0 dB volume
Maximum output	+17 dB
Frequency response (all amplifiers)	40 Hz - 15 kHz ±0.03 dB
Output noise	Fader Drivers <-80 dB4 Echo Send <-76 dB4
Power supply	+12 volt, 0; -12 volt at 20 mA approximately.

Continued .....

3. CIRCUIT DESCRIPTION

Each amplifier consists of a simple non-inverting operational amplifier stage with an input impedance set by R1 (fader drivers) and R21 (echo send). The gain of each amplifier is pre-set by R6 (fader drivers) and R23 (echo send). The gain of amplifiers 1-12 is set to +6 dB and the gain of the Echo Send amplifier to +18 dB during production testing.

Each fader drive circuit has a simple unbalanced output. The Echo Send amplifier is a T.E.R.* send stage.

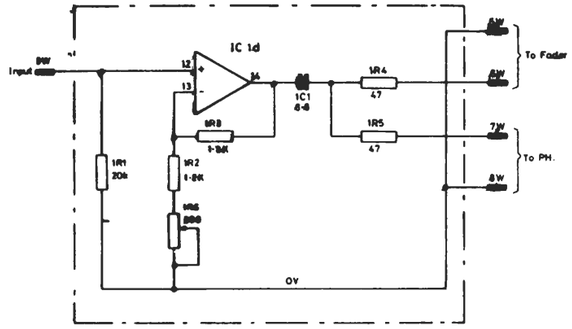
4. MAINTENANCE

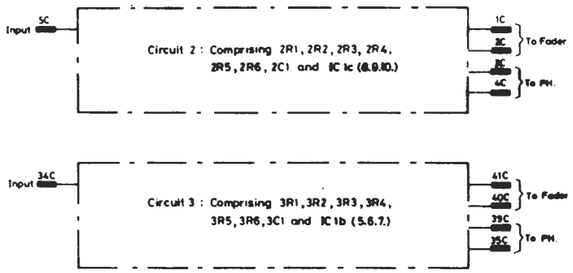
In the case of a fault firstly check that the output pin of each operational amplifier is at 0 volts +20 mV w.r.t. the 0 volt rail.

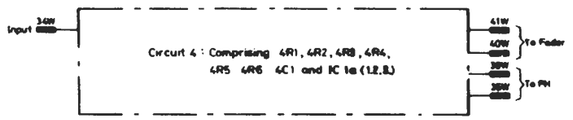
Most dry joints or amplifier faults will result in the appropriate amplifier output being close to either the +12 volt or -12 volt rail.

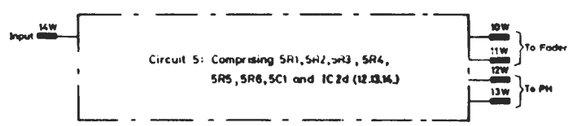
Noise may be checked by shorting the appropriate input to the 0 volt rail and peaking the output noise on a TPM. The fader drivers should be better than -80 dB peaked to '4' unweighted and the Echo Send amplifier some 4 dB worse than this.

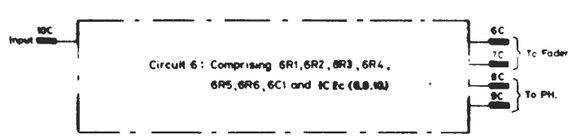
* Transmitted Earth Reference.
See D.D. Tech. Mem. No. 3.221(79)

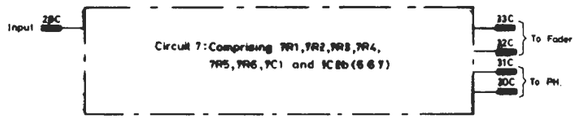


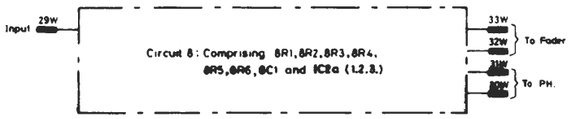


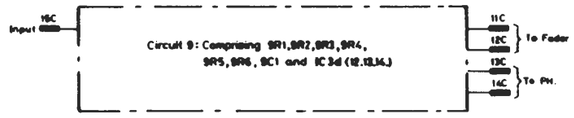


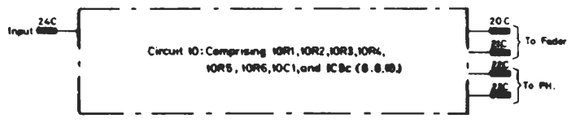


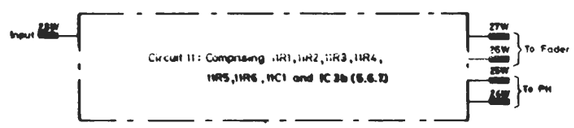


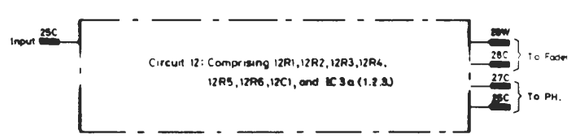


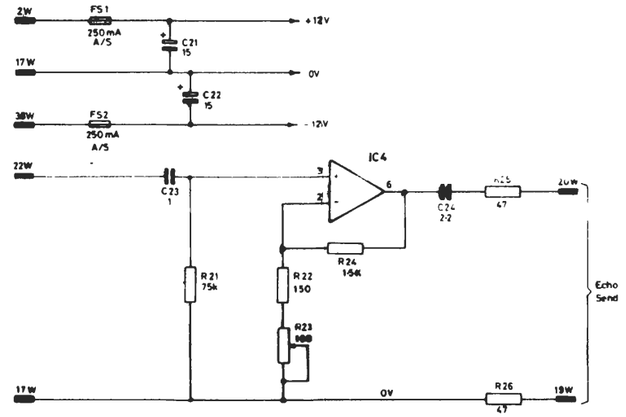








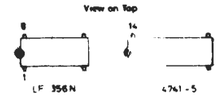




IC Circuit Ref.	No. of Parts	Supply Conns. +V	Supply Conns. -V	Type
IC 1,2,3	4	4	11	HA1-4741-5
IC 4	1	7	4	LF 356 N

IC TERMINATION

View on Top



CHANGE	
7-11-79	1
18-12-79	2
26-7-80	3

AM5/29

FADER DRIVE AMPLIFIER

CIRCUIT

DRN	TCD	CKD	APPD

D46228A1

Parts List: D46228A4

D46228A1

SCALE :